

## TRIM PIECE

[0001] This application claims the benefit of U.S. Provisional Application No. 60/506,856, filed on September 30, 2003, U.S. Provisional Application No. 60/515,551, filed on October 30, 2003, and U.S. Provisional Application No. 60/536,835, filed on January 16, 2004.

[0002] The present invention relates generally to construction, and, more particularly, to a trim piece installed at a corner.

[0003] In wall board (e.g. drywall) construction practice, a corner joint, formed where wall board of a first wall surface meets wall board of a second wall surface, may be covered with a corner bead. The corner bead is typically made of steel, formed as a single strip held in place against the wall boards of the two wall surfaces by nails or by a thin layer of joint compound between flanges of the corner bead and the wall surfaces. When the corner bead has been secured in position, joint compound is applied over the flanges of the corner bead and the adjacent wall surfaces to provide a smooth finish.

[0004] After the drywall has been installed and finished, trim may be installed along each wall, such as, for example, baseboards, chair rails, crown molding, and/or the like. At a typical right angle corner, two strips of trim material that meet are typically mitered to a forty-five degree angle to provide a uniform external surface profile up to the point where the trim strips meet.

[0005] This technique for installation of drywall and trim has worked well when the corner bead has a substantially right angle profile because the exterior configuration of the corner bead, after the joint compound has been applied, matches the interior configuration of the baseboard at the corner.

[0006] However, bullnose corner bead, in which the corner bead includes, between two planar flanges, an intermediate portion having a radius of curvature, such as, for example, one inch, has come into favor. If conventional forty-five degree miters are used in the trim material at an external corner provided with bullnose corner bead, there might be an unsightly gap between the exterior of the bullnose corner bead and the strips of trim material.

[0007] Several techniques have been developed for avoiding the problem created by the difference between the external configuration of the drywall corner and the internal configuration of the trim strips. One technique involves use of a trim piece that provides a

transition between the curved exterior surface of the bullnose corner bead and the right angle internal corner of the trim strips. This trim piece is made of a hard synthetic polymer material. At its upper end, the trim piece has a tongue that is shaped and sized to fit under the bullnose corner bead. Just below the tongue, the exterior surface of the trim piece substantially matches the exterior surface of the corner bead. There is then a transition area, about 1/2 inch high, over which the configuration of the exterior surface changes from one that matches the exterior surface of the corner bead to a right angle, which matches the internal configuration of the baseboard corner. The corner bead is installed at the corner so that its lower end is slightly above the upper edge of the baseboard that is to be used. The trim piece is installed with its lower end resting on the floor and the tongue at its upper end is inserted under the lower end of the bullnose corner bead. The trim strip is then installed and the trim piece provides a smooth transition from the external configuration of the corner bead to the internal configuration of the trim corner.

[0008] In practice, the known technique using a transition trim piece as described above may be subject to several disadvantages. For example, the lower end of the corner bead must be accurately positioned to within about 1/4 inch above the upper edge of the baseboard material. Also, the height of the lower end of the corner bead determines the height of the baseboard and it is costly and inconvenient to use baseboard material of different height. Additionally, the trim being mitered against a corner having a radius may not be aesthetically pleasing.

[0009] In another technique commonly used in practice, the trim strips are cut so that they end just before the corner. One or more thin pieces of the trim strip are fitted in the gap between the trim strips and over the bullnose corner bead. Filler, such as putty, caulk or the like, is then placed in the gaps between the fitted piece of trim material and the trim strips. This method is undesirable because it produces geometric angles at the bullnose corner and may render a non-uniform surface, which may detract from appearance, and it is also time consuming and expensive for the trim installers, and thus for the building owner or purchaser.

[0010] An exemplary embodiment of the present invention is directed toward a trim piece for trim work that may be easily installed and creates a smooth and uniform transition at a corner. In an exemplary embodiment of the present invention, a molded trim piece having a body and two flanges is installed at a corner. Corner, as used herein, refers to an edge where two, or more, surfaces meet. The corner can be angular, curved, or any other geometry. The exterior profile of the trim piece body matches the exterior profile of the trim board, both

mechanically and visually, and the interior of the trim piece matches the exterior profile of the corner, so that the trim piece fits snuggly against the corner of the walls and visible gaps are reduced or eliminated. When the trim boards are butted against the trim piece, a smooth, even appearance of the transition of the trim around the corner is created.

[0011] In use, the exemplary trim piece is attached to the wall. In one exemplary embodiment of the invention the trim piece may be attached to the wall using an adhesive. In another exemplary embodiment of the invention, the trim piece is attached to the wall using nails, brads, screws, or the like.

[0012] In yet another exemplary embodiment of the invention, the trim piece may be attached to the trim using tongue and groove, dovetail, or the like. In this embodiment, when the trim boards are then secured to the wall, the trim piece will be secured to the wall by virtue of the mechanical joint between the trim piece and the trim boards.

[0013] In still another exemplary embodiment of the present invention, the trim piece is held in place solely by the flanges resting underneath the trim boards. The force of the trim boards being attached to the wall and thus applying pressure to the flanges, holds the trim piece in place.

[0014] The exemplary trim piece may be utilized on an outside corner (i.e. where the corner is formed outwardly) or on an inside corner (i.e. where a corner is formed inwardly) with equal effectiveness. The trim piece may be used in interior and/or exterior trim construction applications.

[0015] The exemplary trim piece may be used for various sizes, shapes, and types of trim, including, for example, baseboard, chair rail, crown molding, or the like. However, it should be appreciated that the exemplary trim piece may be molded to fit the mechanical and visual profile of any type of known or later developed trim style, shape, size, or placement.

#### Brief Description of the Drawings

[0016] The present invention will be described with reference to the accompanying drawings, wherein:

[0017] FIG. 1 is a cross sectional view of an outside corner provided with bullnose corner bead and an exemplary embodiment of a trim piece in accordance with the present invention;

[0018] FIG. 2 is a cross sectional view of an inside corner provided with bullnose corner bead and an exemplary embodiment of a trim piece in accordance with the present invention;

[0019] FIG. 3 is an exterior perspective view of an exemplary embodiment of a trim piece in accordance with the present invention having holes in the flanges;

[0020] FIG. 4 is an exterior perspective view of an exemplary embodiment of a trim piece in accordance with the present invention having no holes in the flanges;

[0021] FIG. 5 is an exploded cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention;

[0022] FIG. 6 is a front transparent view of an exemplary embodiment of a trim piece in accordance with the present invention;

[0023] FIG. 7 is a rear view of an exemplary embodiment of a trim piece in accordance with the present invention;

[0024] FIG. 8 is a cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention without flanges;

[0025] FIG. 9 is a cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention without flanges; and

[0026] FIG. 10 is a cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention without flanges.

[0027] In several figures of the drawings, the thickness of various elements may be exaggerated for the sake of clarity.

#### Detailed Description

[0028] In an exemplary embodiment of the present invention there is provided a trim piece for installing at a drywall external right angle corner where two drywall boards meet and which is provided with a bullnose corner bead having first and second flanges extending over the two drywall boards respectively and a convexly curved portion joining the first and second flanges, the first and second flanges having respective mutually parallel free edges, said trim piece comprising a body portion which wraps over the convexly curved portion of the bullnose corner bead and has first and second flanges with edges extending parallel to the

edges of the flanges of the corner bead. The exemplary trim piece is attached to the wall by nails, brads, screws, or the like being driven through the flanges, and wherein the trim piece is held in position relative to the corner bead, and the body of the trim piece includes a region having a first end at one end of the body portion and a second end spaced from the first end, the region having an interior surface at said first end matching closely the exterior surface of the corner bead at said first end and an exterior surface which closely matches the exterior profile of the trim board.

[0029] While the exemplary embodiments may be described in relation to a corner having an essentially right angle, it should be appreciated that the trim piece of the present invention may be formed to fit over corners of any angle from 0 degrees to 180 degrees. However, exemplary embodiments of the trim piece may be formed over standard corner angles, such as, for example, angles ranging from 22.5 degrees to 167.5 degrees. Particular embodiments of the trim piece may be formed having standard angles to meet the demands of the construction industry. Further, the trim piece may be formed to fit corners ranging from a very small radius (e.g. less than one inch) to a very large radius (e.g. several feet).

[0030] The trim piece is discussed in terms of corners for purposes of illustration. However, it should be appreciated that the trim piece of the present invention may be used in other applications where it may be desirable to continue the trim onto a surface that is not flat, such as columns, fixtures, doors, cabinets, moldings, carvings, outlets, switches, furniture, and/or any other objects where trim may be affixed.

[0031] The corner trim piece of the present invention may be manufactured using injection molding, die stamping, compression molding, and/or the like. However, it should be appreciated that the trim piece can be manufactured with any known or later developed technique(s) that will produce a similar result in accordance with the present invention.

[0032] The exemplary trim piece can be manufactured from a variety of materials, including, for example, plastics, metals, composites, ceramics, and/or the like. However, it should be appreciated that any known or later developed material(s) that has similar physical properties and is capable of being used to make a corner trim piece in accordance with this invention.

[0033] FIG. 1 is a cross sectional view of an outside corner provided with bullnose corner bead and an exemplary embodiment of a trim piece in accordance with the present invention. In particular, FIG. 1 illustrates an outside corner of a structure including a vertical stud 10

and drywall boards 12 attached to the stud by nails (not shown) and meeting at substantially a right angle to form an external corner. A strip of bullnose corner bead 22 has a curved intermediate portion and two planar flanges, which meet the intermediate portion at respective steps. The corner bead 22 is positioned so that the two flanges lie against the external surfaces of the drywall boards 12 respectively. The corner bead 22 is held in position by nails (not shown) or it may alternatively be secured to the drywall boards 12 by a thin layer of joint compound (not shown) between the flanges and the drywall boards 12. An exemplary embodiment of a trim piece 20 is shown. The trim piece 20 comprises a body 40 and two flanges 52.

[0034] The body 40 has a back with a back radius substantially equal to and adapted to fit around the wall corner. The front surface of the body 40 has a radius substantially equal to the back radius. The top surface of the body extends between the top edges of the back and front. The bottom surface of the body 40 extends between bottom edges of the back and front. The body 40 has a left surface extending between left edges of the back, front, top and bottom, and a right surface extending between right edges of the back, front, top and bottom, each of the left and right sides defining substantially equal cross-sections of the body.

[0035] The flanges 52 extend away from each of the left edge and the right edge of the back in substantially planar alignment with the back. In an exemplary embodiment, the flanges 52 may be substantially thinner than the body. Thus, allowing the flanges 52 to be positioned beneath the trim boards 14.

[0036] In use, the trim piece 20 is placed over the bullnose corner bead. The two flanges 52 of the trim piece 20 are positioned between the trim boards 14 and the dry wall boards 12. The trim piece may be attached to the drywall boards 12 by adhesives, nails, brads, screws, and/or the like (not shown). The trim boards 14 abut the trim piece body 40 and may be attached to drywall boards 12 in a conventional manner. Thus, creating a smooth and continuous transition of the trim work around the corner.

[0037] In the exemplary embodiment of FIG. 1, the back of the trim piece 20 is formed in a contour so as to fit closely against the convexly curved external surface of the of the corner bead. However, it should be appreciated that the back of the trim piece 20 may be molded or formed to adapt and conform to any interior surface geometry necessary for the trim piece to fit against the wall and to reduce or eliminate gaps between trim piece and wall.

[0038] FIG. 2 is a cross sectional view of an inside corner provided with bullnose corner bead and an exemplary embodiment of a trim piece in accordance with the present invention. In particular, an inside corner is illustrated including a vertical stud 10 and drywall boards 12 attached to the stud by nails (not shown) and meeting at substantially an inside right angle to form an internal corner. A strip of bullnose corner bead 22 has a curved intermediate portion and two planar flanges, which meet the intermediate portion at respective steps. The corner bead 22 is positioned so that the two flanges lie against the external surfaces of the drywall boards 12 respectively. The corner bead 22 is held in position by nails (not shown) or it may alternatively be secured to the drywall boards 12 by a thin layer of joint compound (not shown) between the flanges and the drywall boards 12. An exemplary embodiment of a trim piece 20 is shown. The trim piece 20 comprises a body 40 and two flanges 52

[0039] In use, the trim piece 20 is placed over the bullnose corner bead. The two flanges 52 of the trim piece 20 are positioned between the trim boards 14 and the dry wall boards 12. The trim piece may be attached to the drywall boards 12 by adhesives, nails, brads, screws, and/or the like (not shown). The trim boards 14 abut the trim piece body 40 and may be attached to drywall boards 12 in a conventional manner. Thus, creating a smooth and continuous transition of the trim work around the inside of the corner.

[0040] In the exemplary embodiment of FIG. 2, the back of the trim piece 20 is formed in a contour so as to fit closely against the curved external surface of the of the corner bead. However, it should be appreciated that the back of the trim piece 20 may be molded or formed to adapt and conform to any interior surface geometry necessary for the trim piece to fit against the wall and to reduce or eliminate gaps between trim piece and wall.

[0041] FIG. 3 is an exterior perspective view of an exemplary embodiment of a trim piece in accordance with the present invention having holes in the flanges. In particular, a trim piece 20 comprises a body 40, two flanges 52 and holes 72 in the flanges 52.

[0042] In use, the trim piece 20 is positioned over a corner. The trim piece 20 may be securing to the walls using fasteners. The fasteners may be inserted through the holes 72 thereby securing the trim piece 20 to the wall.

[0043] FIG. 4 is an exterior perspective view of an exemplary embodiment of a trim piece in accordance with the present invention having no holes in the flanges. In particular, a trim piece 20 comprises a body 40 and two flanges 52. The flanges 52 may be formed thin enough to allow fasteners to be driven through the flanges 52 and into an underlying wall.

[0044] In use, the trim piece 20 is positioned over a corner. The trim piece 20 may be securing to the walls using fasteners. The fasteners may be inserted through the flanges 52 thereby securing the trim piece 20 to the wall.

[0045] FIGS. 3 and 4 illustrate a trim piece 20 in accordance with the present invention. In an exemplary embodiment, the trim piece 20 may be made of a synthetic polymer material such as ABS, which may have physical properties that make it appropriate for use as trim material, or any other material appropriate for use as trim material. The trim piece 20 has a body 40 and two flanges 52. The two flanges 52 have back surfaces, which meet the interior surface of the wall. The flanges 52 may have holes 72, as in FIG. 3 to allow fasteners to be placed through them, or may not have holes in them, as in FIG. 4. The trim piece may be molded such that it is stiff, or it may be molded such that it is flexible.

[0046] The height, width, and thickness of the trim piece 20 body may conform to a trim board that the trim piece has been designed to mate with. Additionally, the exterior profile of trim piece body 40 may match the exterior profile of the trim board in order to provide a visually uniform appearance. However, it should be appreciated that the exterior of trim piece body 40 may be molded in various shapes, sizes, and profiles, and may be different than the trim board.

[0047] FIG. 5 is an exploded cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention. In particular, a trim piece 20 comprising a body 40 and flanges 52 is shown in relationship to a wall corner 50 and trim boards 14.

[0048] FIG. 5 show the positioning of the trim piece 20 and trim boards 14 prior to attaching the trim piece 20 and trim boards 14 to the wall 50.

[0049] FIG. 6 is a front transparent view of an exemplary embodiment of a trim piece in accordance with the present invention. In particular, a trim piece 20 comprises a body 40 and flanges 52. The body 40 has been formed to abut a trim board 14. In FIG. 6 the body has been formed with a front profile closely matching the trim board 14.

[0050] FIG. 7 is a rear view of an exemplary embodiment of a trim piece in accordance with the present invention. In particular, FIG. 7 shows the back of a trim piece 20. The trim piece 20 comprises a body 40, flanges 52, reinforcing ribs 76 and hollow portions 78.

[0051] An advantage of this embodiment may be that the hollow molding process with reinforcing ribs may result in reducing or eliminating shrinkage of the material and warping that may be associated with shrinkage. However, it should be appreciated that the trim piece

may be molded, depending on the material used, as a solid piece, as a hollow piece with reinforcing ribs, as a hollow piece without reinforcing ribs, or with other known or later developed molding technique, provided that the molding technique yields a part that is suitable for use as trim in accordance with the invention. The trim piece 20, if molded as a hollow piece may have a closed back surface, a partially open back surface, or a completely open back surface.

[0052] In the event that nails are used for installation, the trim piece 20 is placed in position over the corner and nails are driven through the flanges 52 into the underlying wall structure. Due to the positioning of the flanges 52, it is not necessary to drive the nail through the steel corner bead. In fact, it is not even necessary to use nails that will penetrate the lumber structure, because shorter nails inserted through flanges 52 may be held in place by firm frictional engagement with the free edges of the flanges of the corner bead.

[0053] As shown in FIG. 7 the trim piece may be formed with a partially hollow body 40. However, it should be appreciated that the trim piece may be formed having a solid body or a partially hollow body. The flanges 52 may be solid, hollow, or partially hollow. In the case of a trim piece 20 having a hollow or partially hollow body 40, reinforcing ribs 76 may be formed. The reinforcing ribs may be formed to attach to the back surface of the front side of the body 40. The reinforcing ribs 76 may be formed both vertically (i.e. extending at least partially from the top surface to the bottom surface) or horizontally (i.e. extending at least partially from the left side to the right side). The reinforcing ribs may also be formed in other geometries in accordance with contemplated uses of the present invention.

[0054] In another exemplary embodiment, the trim piece is attached to the wall by adhesive. Alternatively, the trim piece 20 can be attached to the wall by nail, brad, screw, or the like placed directly through the flanges 52 and into the wall. Alternatively still, the trim piece 20 may be attached using a nail, brad, screw, or the like placed through holes 70 provided in the flanges 52. Then, the trim boards are attached to the wall using conventional methods.

[0055] FIG. 8 is a cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention without flanges. In particular, the trim piece 20 comprises a body 40. The body 40 has a back with a back radius substantially equal to and adapted to fit around the wall corner. The front surface of the body 40 has a radius substantially equal to the back radius. The top surface of the body extends between the top

edges of the back and front. The bottom surface of the body 40 extends between bottom edges of the back and front. The body 40 has a left surface extending between left edges of the back, front, top and bottom, and a right surface extending between right edges of the back, front, top and bottom, each of the left and right sides defining substantially equal cross-sections of the body.

[0056] The left and right surfaces of the body 40 are formed having angled left and right surfaces 802 allowing for the trim boards 14 to overlap the body 40 at a front surface. The construction of the trim piece shown in FIG. 8 may allow for the trim piece 20 to be held in place by the fastening of the trim boards 14 to a wall.

[0057] FIG. 9 is a cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention without flanges. In particular, the trim piece 20 comprises a body 40. The body 40 has a back with a back radius substantially equal to and adapted to fit around the wall corner. The front surface of the body 40 has a radius substantially equal to the back radius. The top surface of the body extends between the top edges of the back and front. The bottom surface of the body 40 extends between bottom edges of the back and front. The body 40 has a left surface extending between left edges of the back, front, top and bottom, and a right surface extending between right edges of the back, front, top and bottom, each of the left and right sides defining substantially equal cross-sections of the body.

[0058] The left and right surfaces of the body 40 are formed having left and right surfaces 902 essentially parallel with the edges of the trim boards 14. Thus, allowing for the trim boards 14 to substantially abut the left and right surfaces of the body 40. The construction of the trim piece shown in FIG. 9 may allow for the trim piece 20 to be attached to the wall in a process separate from the process used to attach the trim boards.

[0059] FIG. 10 is a cross sectional view of an exemplary embodiment of a trim piece in accordance with the present invention without flanges. In particular, the trim piece 20 comprises a body 40. The body 40 has a back with a back radius substantially equal to and adapted to fit around the wall corner. The front surface of the body 40 has a radius substantially equal to the back radius. The top surface of the body extends between the top edges of the back and front. The bottom surface of the body 40 extends between bottom edges of the back and front. The body 40 has a left surface extending between left edges of the back, front, top and bottom, and a right surface extending between right edges of the

back, front, top and bottom, each of the left and right sides defining substantially equal cross-sections of the body.

[0060] The left and right surfaces of the body 40 are formed having dovetailed left and right surfaces 1002 allowing for the trim boards 14 to engage the left and right surfaces of the body 40. The construction of the trim piece shown in FIG. 10 may allow for the trim piece 20 to be held in place by the fastening of the trim boards 14 to a wall.

[0061] In use, the trim piece is installed by mechanically mating the edges of the body 40 with the edges of the trim boards 14. Next the trim boards are attached to the wall. The trim piece is then held in place by the mechanical joint attachment to the trim boards. The mechanical joint may be, for example, dovetail, tongue and groove, or the like. However, it should be appreciated that any method of joining the trim piece 20 with the trim boards 14 such that the trim piece 20 is securely attached to the trim boards 14 may be used with equal success in accordance with the invention.

[0062] It is, therefore, apparent that there is provided in accordance with the present invention, a trim piece for installing at corners. While this invention has been described in conjunction with a number of embodiments, it is evident that many alternatives, modifications and variations would be or are apparent to those of ordinary skill in the applicable arts. Accordingly, applicants intend to embrace all such alternatives, modifications, equivalents and variations that are within the spirit and scope of this invention.